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|-------------------------------|------------------------|---------------------|--|
| <b>Notice of Allowability</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                               | 10/662,554             | PHAM, HIEP THE      |  |
|                               | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                               | Hai L. Nguyen          | 2816                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 02/18/2005.
2. ☒ The allowed claim(s) is/are 1,2,4-18,20-23,25-28,30-33 and 35-39.
3. ☒ The drawings filed on 15 September 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).


\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

  
TIMOTHY P. CALLAHAN  
SUPERVISORY PATENT EXAMINER

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment received on 2/18/2005 has been reviewed and considered with the following results:

As to the objections to the specification, Applicant's amendments have overcome the objections, as such; the objections have been withdrawn.

As to the rejections to the claims, under 35 U.S.C. 112, 1<sup>st</sup> and 2<sup>nd</sup> paragraphs, Applicant's amendments and clarifications have overcome the rejections, as such; the rejections have been withdrawn.

As to the prior art rejections to the claims. Applicant's amendments have overcome the rejections mailed on 12/01/2004, as such; the prior art rejections have been withdrawn. Therefore the case is found to be in allowance condition for the reasons as set for below.

## **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to Applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. William L. Paradice III on 4/29/2005.

3. The application has been amended as follows:

***In the claims***

Claim 21, in the last line, after “reference voltages”, --when a mode signal is set to a first state-- has been added; and

Claim 23, line 2, “further comprising a mode signal,” has been deleted; and lines 2-6, “setting the mode signal to a first state configures the control circuit to adjust the tuning range signal in response to the comparison between the control voltage and the plurality of reference voltages, and” has been deleted.

**REASON FOR ALLOWANCE**

4. The following is an examiner's statement of reasons for allowance:

The prior art of record fails to disclose or fairly suggest a phase-locked loop (300 in instant Fig. 3), as recited in claim 1, comprising very specific structural limitations such as a control circuit (350) having inputs to receive the control voltage (V<sub>ctrl</sub>), a high reference voltage (V<sub>H</sub>), a low reference voltage (V<sub>L</sub>), and one or more mode signals (MS), and having a first output (RST) connected to the control terminal of the loop filter (330) and second outputs (TRS) to generate the tuning range signals, wherein the control circuit is configured to automatically generate the tuning range signals when the mode signals are set to a first state (00 in instant Table 2); and being configured in combination with the rest of the limitations of the base claims and any intervening claims.

The prior art of record fails to disclose or fairly suggest a phase-locked loop (300 in instant Fig. 3), as recited in claim 21, comprising very specific structural limitations such as a control circuit (350) for automatically generating the tuning range signal (TRS) in response to a comparison between the control voltage (V<sub>ctrl</sub>) and a plurality of reference voltages (V<sub>H</sub>, V<sub>L</sub>)

Art Unit: 2816

when a mode signal (MS) is set to a first state (00 in instant Table 2); and being configured in combination with the rest of the limitations of the base claims and any intervening claims.

The prior art of record fails to disclose or fairly suggest a method of operating a phase-locked loop (300 in instant Fig. 3), as recited in claim 35, comprising very specific step such as selecting a lower frequency tuning range if the control voltage is less than the first reference voltage (CMP\_dn in instant Fig. 6); selecting a higher frequency tuning range if the control voltage is greater than the second reference voltage (CMP\_up); and locking the selected frequency tuning range if the control voltage is between the first and second reference voltages; and being configured in combination with the rest of the limitations of the base claims and any intervening claims.

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai L. Nguyen whose telephone number is 571-272-1747 and Right Fax number is 571-273-1747. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The official fax phone number for the organization where this application or proceeding is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1562.

Art Unit: 2816

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HLN 

April 29, 2005